Idaho Office of Science & Technology March 2007

In this issue:

CFED Gives Idaho "A" for Entrepreneurial Energy, Employment, Quality of Life

The nonprofit Corporation for Enterprise Development's annual report card ranked Idaho first in new companies formed, short-term employment growth and patents issued per capita.
The state also ranked in the top five states for long-term employment growth, advantageous energy costs and manufacturing investment.
These rankings helped Idaho receive an overall "A" for performance and a "B" for development capacity in the report.
The complete report is available at cfed.org.

Idaho One of Six Sites For Federal Biofuels Funding

(Shelley) Shelley is one of six sites splitting $385 million in federal funding for biorefinery projects, the U.S. Department of Energy announced.

2007 Events Calendar

March 6
Global Warming Lecture
Moscow
Indiana University geological sciences professor Simon Brassell traces global warming to an evolutionary process,

not a new phenomenon. Free lecture is at 3:30 p.m. in the

Whitewater Room of the Idaho Commons on the University of Idaho campus.

When fully operational, the six biorefineries are expected to produce more than 130 million gallons of cellulosic ethanol per year.
This production will help further President Bush's goal of making cellulosic ethanol cost-competitive with gasoline by 2012 and combined with increased automobile fuel efficiency, reduce America's gasoline consumption by 20 percent in 10 years.
These projects directly support the administration's goals of increasing the use of renewable and alternative fuels in transportation to the equivalent of 35 billion gallons of ethanol a year by 2017. Combined with the industry investment, more than $1.2 billion will be spentI on these six biorefineries.
The Shelley plant is proposed by Iogen Biorefinery Partners LLC of Arlington, Va., and will produce 18 million gallons of ethanol annually.
The plant will use 700 tons a day of agricultural residues including wheat straw, barley straw, corn stover, switchgrass, and rice straw.
Iogen Biorefinery Partners LLC investors and partners include Iogen Energy Corp., Iogen Corp., Goldman Sachs and Royal Dutch Shell.
Construction is expected to start in 2008 with completion in 2010.

Micron Technology Introduces New Image Sensors

(Boise) Micron Technology has introduced a new lineup of image sensors that create a powerful imaging platform for next-generation camera phones. The new camera phone sensors were showcased at the 3GSM World Congress recently in Spain.
Just as voice and text messaging are the mainstream communication methods for today's handsets, sharing photographs and video via handsets is fast gaining in popularity as the industry produces more advanced devices and mobile service providers offer more sophisticated services.
This evolution is driven in part by social factors but also by advancements in imaging technology. Micron's technology proficiency in CMOS imaging is enabling consumers to capture high-quality images and high-definition video all from a camera phone.
Micron leads the industry in shrinking pixels, creating a smaller sensor form factor for today's razor-thin phone designs, all the while maintaining picture quality.
More information is at micron.com/products/imaging.

BSU Collaborates on Alternative to X-Rays

(Boise) A Boise State University engineering professor is partnering with an Austin, Texas-based company to develop a miniaturized device to generate high-frequency electromagnetic waves. The device could someday help provide a safer alternative to X-rays or be used as part of new secure communications systems.
Jim Browning, a professor in the Department of Electrical and Computer Engineering, is working with Stellar Micro Devices in Texas with $100,000 in startup funding from the U.S. Defense Advanced Research Projects Agency.
Browning is performing computer modeling of the device as part

March 8
Kickstand
Boise
Special Kickstand program will feature Mark Durcan, chief operating officer of Micron Technology, and the winning pitches from the 6th Annual Northwest Venture Championship business plan competition. Event will be at the Visual Arts Collective, 1419 Grove St. Free to members of Kickstand and Boise Young Professionals; $5 for guests. RSVPs requested at kickstand.org.

March 8-10
Northwest Venture Championship
Boise
Student business plan competition hosted by Boise State University. Event will be held at Springhill Suites in Boise. For information, contact Dr. Kent Neupert at 208-426-2397 or kneupert@boisestate.edu or visit www.northwestventurechampionship.org.

March 8-9
IEDA/Idaho Rural Partnership Conference
Boise
Training conference will feature Michael Shuman, author of Small Mart Revolution. Conference offers networking and training for economic development professionals. For information, go to ieda.biz.

March 19
Marketing Strategies Clinic
Boise
Digital marketing agency Cendesic offers a 1-day hands-on workshop for businesses to improve the findability of their products and services on search engines and the Web.
For information and registration, visit cendesic.com/events.html or contact Oliver Fritsch at oliverf@cendesic.com or (208) 854-1208.

of the project's six-month first phase.
The tiny device, called a Micro Vacuum Backward Wave Oscillator, would be capable of generating electromagnetic waves at a frequency of more than 100 billion cycles per second, or 100 GHz. For comparison, cell phones operate at frequencies around 1 billion cycles per second, or 1GHz, while FM radios operate around 100 million cycles per second, or 100 MHz.
The innovative new device might someday be used to analyze material properties, provide satellite-to-satellite communication or provide medical imaging in place of X-rays. While there are already systems that generate these very high frequency waves, most are either heavy and bulky or have a limited frequency range. The development of a miniaturized system with a range of wave frequencies is of great interest and still very much in the experimental stage, said Browning.

NanoSteel Exibits Technology to U.S. Army

(Idaho Falls) The NanoSteel Co. with research based in Idaho Falls highlighted its super hard steel powder and wire-arc thermal spray alloys at the U.S. Army Corrosion Summit in February.
NanoSteel's products provide corrosion resistance in a broad variety of service environments including high chloride, salt fog and concentrated salt and seawater. The company's thermal spray alloys extend the service life when applied to the surface of military equipment, machines, weapons and vehicles.
More information is at nanosteelco.com.

Rapid Cynanide Detection Sensor Developed at ISU

(Pocatello) Idaho State University chemistry professor Jeffrey Rosentreter has helped developed a new real-time method of detecting cyanide in drinking water and other substances, offering numerous advantages over existing technology.
The device was designed for anti-terrorism detection of cyanide and, once it can be mass-produced, it could be put to immediate use by U.S. troops. It will also permit monitoring mining and manufacturing operations, which annually produce some 1.4 million tons of cyanide worldwide.
The new device has both safety and security applications. Rosentreter and former Idaho State faculty members Yegor Timofeyenko and Susan Mayo have created an inexpensive and portable device that works on the same principle as a quartz wristwatch. The sensor uses a quartz crystal coated with gold. Cyanide dissolves the gold and the dissolving rate can be measured. The sensor can identify toxins in water instantaneously and targets the specific form of cyanide toxic to humans and other organisms.
In all, it will cost about $200,000 to develop the sensor, which can be used in inline water treatment facilities and wells. Though the prototype sensor is functional and in use locally, Rosentreter said the device is about one step away from being mass-produced. Patent applications have been submitted, and a more sophisticated version of the device will likely be in use within a year, Rosentreter predicts.

April 3
Governor's Science & Technology Advisory Council
Twin Falls
Quarterly meeting of the Governor's Science & Technology Advisory Council. Live Web cast will be posted at technology.idaho.gov. For meeting information, contact Karen Lewis at (208) 334-2650 ext. 2101.

April 18-19
Third Annual KickStart
Boise
Annual entrepreneurial event features speakers and how-to workshops. Keynote speakers include Rick & Jeff Sloan, founders of Startup Nation; Ben McConnell, author of Citizen Marketers; and Furby inventor Caleb Chung. Workshops will include two tracks focusing on Starting a Business and Growing a Business. For information and registration, go to kickstartidaho.com.

April 19-21

Idaho Academy of Science Conference
Idaho Falls
Program will focus on "Energy for the Future: Human & Ecological Considerations." For information, go to isu.edu/ias.

April 27
University of Idaho Design Expo
Moscow
Annual event features capstone projects by engineering students. More information is at engr.uidaho.edu/expo.

For more calendar information, visit Conferences and Events at cl.idaho.gov

ISU Seeks Volunteers for Cholesterol-Lowering Study

(Pocatello) Researchers at the Idaho State University Family Medicine Clinical Research Center are seeking volunteers for a new long-term cholesterol-lowering study in patients with heart disease.

This research project is called AIM-HIGH. It is funded by the National Heart, Lung, and Blood Institute, a part of the National Institutes of Health, and receives additional support from Kos Pharmaceuticals. Idaho State is one of about 70 participating research centers across the United States and Canada. The multi-year study directs $510,000 to the Family Medicine Clinical Research Center, which is receiving over $2 million for other clinical studies including a major trial on diabetes.

For AIM-HIGH, Idaho State needs 60 volunteers. About 5,500 are being sought nationwide. Volunteers must be 45 or older, have cardiovascular disease and have an imbalance of good and bad cholesterol – low HDL-cholesterol plus elevated triglycerides. Potential volunteers will be given an examination to determine if they qualify. They cannot have conditions that would prevent their participation.

Most volunteers at the Pocatello clinic will come from southeastern Idaho, but some could come from as far away as southwestern Idaho, Montana, Wyoming and Utah as they have in previous clinical trials.

For more information about volunteering, contact Rex Force at (208) 282-4508 or force@fmed.isu.edu, or, Nicole Murdock at (208) 282-4467 or murdnico@pharmacy.isu.edu.

U.S. Remains Tops for Patents

(Nationwide) Patent filings in the United States rose by 6.1 percent in 2006 and the country maintained its global dominance with 49,555 patent filings or 34.1 percent of the filings worldwide.

Japan came in second, with 26,906 patent applications or 18.5 percent of the worldwide total. Germany stayed in third place with 11.7 percent.

The Republic of Korea, however, surged into fourth place with a 26.6 percent growth in its patent filings during the year. Another huge growth of 56.8 percent launched China into the eighth spot.

More information, including the breakdown by technology sector, is available on the WIPO website:
http://www.wipo.int/edocs/prdocs/en/2007/wipo_pr_2007_476.html

Intrepid Wins Clean Energy Award

(Idaho Falls) Intrepid Technology and Resources Inc. received the Idaho Governor's Clean Energy Award during February's Harvesting Clean Energy Conference.

The award recognizes the firm's contribution to the development of renewable energy in Idaho with its anaerobic digester facility near Rupert that processes animal waste into clean natural gas, which is fed into the local gas utility pipeline for commercial and industrial use. The system also converts animal waste into liquid natural gas for industrial and agricultural heating and other uses.

More information is at intrepid21.com.

State of Idaho Seeks Topic "Experts"

(Statewide) Idaho Commerce & Labor is seeking experts on various economic development topics for a directory to be distributed to members of the national media seeking interview on various topics.
The topics are biotechnology, biofuels, nanotechnology, imaging, digital devices, alternative energies, sports equipment manufacturing, medical equipment manufacturing, semiconductor manufacturing and support firms, Idaho's economy, rural technology companies, exporting and value-added wood products.
Organizations with experts in any of these areas can e-mail name, title, contact information and one sentence explaining the individual's specific area of expertise to Julie.howard@cl.idaho.gov.

Grants Available for Idaho Technologies

(Statewide) The Idaho Small Business Innovation Research Program offers thousands of dollars in grants for Idaho small businesses to offset costs associated with competing in both the federal innovation research and federal Small Business Technology Transfer programs.
These Small Business Assistance Fund grants can be used for such things as developing and reviewing proposals and attending innovation research conferences. More information about the Idaho program can be found at technology.idaho.gov/sbir or contact Brandon Armstrong at (208) 334-2650 ext. 2128.
The 2007 Spring National SBIR/STTR Conference will be in Research Triangle Park in North Carolina on April 30 through May 3. For a listing of other events, go to "news & events" on the Idaho SBIR Program Web site listed above.

City of Los Angeles Selects MobileDataforce's Mobile Inspections Solutions

(Boise) MobileDataforce, a mobile software applications firm, has been selected by the city of Los Angeles to provide a mobile inspection system for asset and facilities management.
MobileDataforce's mobile inspection software will be used by the Department of General Services' Building Maintenance Division to assess equipment and facilities at more than 900 locations across the city.
They include libraries, fire stations, police stations, communication centers, maintenance buildings, waste water facilities and other municipal buildings. The inspections will cover carpentry, roofing, elevators, plumbing, electrical and heating, ventilation and air conditioning.
The inspectors will use handheld computers and the MobileDataforce system integrated with the city's computer managed maintenance system.
More information is at mobiledataforce.com.

BSU Uses Computer Animation to Study Cause of Sports Injuries

(Boise) Boise State University's Michelle Sabick is conducting research that could help keep athletes healthy and improve their performance.

Sabick, co-director of the Center for Orthopaedic & Biomechanics Research, has even tapped Boise State football players for her work that includes examining how different types of football cleats perform on artificial turf. She has already analyzed the throwing techniques of Bronco quarterbacks.

As part of her research, Sabick and her colleagues and students use the latest 3-D computer animation technology to analyze the specific movements athletes make when they throw, jump, cut or run. The motion-capture technology is used by filmmakers to create characters in video games and films such as Gollum in "Lord of the Rings."

By tracking exactly how athletes move when they perform specific maneuvers such as throwing a ball or landing hard on one foot, researchers can analyze the stresses put on joints and muscles and the factors that could lead to injury or that could enhance performance.

Analyzing the computer-generated data helps researchers determine which cleat design lets players move the quickest and which cleat best cushions players landing on the turf.

Sabick hopes her laboratory can continue this line of research with funding from the National Football League or other athletic organizations.

BSU Student Honored by U.S. Department of Transportation

(Boise) The U.S. Department of Transportation has named Boise State University graduate student Arlen Planting as the 2007 Federal Aviation Administration Air Transportation Centers of Excellence Outstanding Student of the Year.

Planting was selected from among students at more than 60 top universities from across the nation. He is pursuing a master's degree in electrical engineering and was recognized for his research contributions to the FAA Center of Excellence for Airliner Cabin Environment Research Boise State, one of eight FAA centers nationwide. The long-term research is a collaboration with other universities including Harvard, Auburn, Purdue and California, Berkeley.

Planting works under the direction of Sin Ming Loo, a Boise State electrical and computer engineering professor who has received more than $700,000 for research into sensors and instrumentation to monitor air quality and detect contaminants in airliner cabins.

Planting played a pivotal role in integrating hardware and software design for a wireless sensor network to detect and measure contaminants in airliner cabins, Loo said. Future research would involve refining the network to provide real-time information about contaminants to flight crews or ground stations.

Verizon Wireless Invests nearly $34 Million in Idaho

(Statewide) Verizon Wireless invested more than $33.8 million to enhance its Idaho voice and data wireless network in 2006.

The company has invested more than $101 million in its Idaho network over the past five years to improve call quality and enable customers to make calls.
Verizon has also expanded its Evolution-Data Optimized broadband wireless data network to Boise and other Idaho communities and launched a high speed data network that enables both BroadbandAccess and V CAST services in Boise.

PCS Edventures Partners with Kansas Kids

(Boise) PCS Edventures has deployed its Acacemy of Robotics and other hands-on learning labs to multiple sites throughout the state of Kansas through a partnership with the Kansas Kids Gear Up program.
Kansas Kids Gear Up is a U.S. Department of Education funded program with Wichita State University serving as the host institution. Children in foster care are given top priority for services, while limited income and children in adoptive care also qualify for this program.
The implementation includes the Academy of Robotics, Edventures On-Line, Academy of Science, BrickLab, and K'NEX Education learning lab packages that were delivered to multiple sites across six regions throughout Kansas.
PCS Edventures designs, develops and delivers products and services that make learning easier, more engaging, and more effective at all levels. Product lines range from hands-on learning labs in technology-rich subjects like engineering, science, math, robotics, IT, and electronics to administrative tools designed to help schools manage the enormous amounts of data required in day-to-day school administration.
PCS programs operate in over 3,000 sites in all 50 United States as well as in 15 countries. More information is at edventures.com.

Student Entrepreneurs Vie for Prizes

(Boise) Entrepreneurs from across the United States, Canada and Mexico converge on Boise March 8-10 for the 6th annual Northwest Venture Championship hosted by Boise State University.
Teams of student entrepreneurs will pitch their ideas for new business ventures to a panel of leading entrepreneurs, investors and business professionals from across the intermountain region. The teams will take away over $35,000 in startup capital.
Collegiate entrepreneurs from Baylor University, Ball State University, Boise State University, Brigham Young University, ITESM Guadalajara, Loyola Marymount University, University of Arizona, University of Houston, University of Manitoba, University of Michigan and University of Oregon will compete over two days for cash and an invitation to MOOT CORP, the Superbowl of business plan competitions, at the University of Texas at Austin in May.
For information, contact Kent Neupert at (208) 426-2397 or kneupert@boisestate.edu or visit www.northwestventurechampionship.org.

UI Scientist Receives Nation's First Professorship to Study Rangeland Health

(Moscow) A University of Idaho scientist will try applying satellite

remote sensing techniques to rangeland monitoring and management.
Lee Vierling is the first scientist in the United States to receive the Heady Professorship of Rangeland Ecology. The professorship was initiated by Harold Heady, professor emeritus of range resources at the University of California, Berkeley.
"By improving methods of detecting rangeland plant species and productivity using satellite imagery, our goal is to develop new tools that will be applicable not only in Idaho and the West but across the globe as well," said Vierling. "We hope that this work will provide new methods not only for scientists but also for rangeland managers on the ground."
Vierling will be assisted by doctoral candidate Javier Naupari, a Fulbright Scholar from Peru who hopes to use this research project as a basis for developing a rangeland monitoring protocol in his home country.

Ideas Innovations Idaho License Plates For Sale

(Statewide) Specialty license plates that support Idaho's science and technology industry are for sale through the Idaho Transportation Department.
A portion of the proceeds from each plate sold goes to a fund that is used to develop programs and market the state's technology sector.
A picture of the license plate, and information on how to purchase one, can be viewed at technology.idaho.gov/license.

Have an Idea/Submission for this Newsletter?

Contact Julie Howard at the Idaho Commerce & Labor's Office of Science & Technology at (208) 334-2650, ext. 2147, or at Julie.howard@cl.idaho.gov

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Miss last month's Science & Technology newsletter? Find the complete newsletter archives at technology.idaho.gov and click on "news."

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